

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): An electronic stitch length regulator comprising: a ~~position~~ speed sensor; a sensor arm; a base plate; an electronic circuit; an electrical output connector.

Claim 2 (original): The electronic stitch length regulator of claim 1, wherein the sensor arm is pivotally mounted in the base plate.

Claim 3 (withdrawn): The electronic stitch length regulator of claim 2, wherein the sensor arm is preloaded longitudinally with a spring element.

Claim 4 (original): The electronic stitch length regulator of claim 1, wherein the base plate is mounted below the sewing machine.

Claim 5 (currently amended): The electronic stitch length regulator of claim 1, wherein the electronic circuit converts speed of ~~position~~ sensor to electrical resistance measured in Ohms.

Claim 6 (original): The electronic stitch length regulator of claim 5 wherein the frequency output of the sensor comprises two channels.

Claim 7 (original): The electronic stitch length regulator of claim 6, wherein each channel of frequency signal is converted to a voltage respectively.

Claim 8 (original): The electronic stitch length regulator of claim 7, wherein the two channels of voltage are added to form a composite total voltage.

Claim 9 (original): The electronic stitch length regulator of claim 8, wherein the composite total voltage is used as an input signal to a comparator circuit.

Claim 10 (original): The electronic stitch length regulator of claim 9, wherein the comparator output is dependent on the composite total voltage.

Claim 11 (original): The electronic stitch length regulator of claim 10, wherein the comparator output controls an opto-isolator integrated circuit.

Claim 12 (original): The electronic stitch length regulator of claim 11, wherein the output of the optoisolator circuit is connected to a plurality of fixed electrical resistors.

Claim 13 (original): The electronic stitch length regulator of claim 12, wherein the plurality of fixed electrical resistors are connected to an electrical output connector.

Claim 14 (original): The electronic stitch length regulator of claim 13, wherein the electrical output connector plugs into the sewing machine foot pedal connector port.